

The role of school health education in the acquisition of oral health knowledge and attitudes: the case of Sidi Kacem province, Morocco.

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Abstract

Background: Oral health is the good health of a person's oral cavity, particularly the good health of the teeth and gums. It is a fundamental component of physical and mental health and well-being, reflecting physiological, social and psychological traits essential to quality of life. Furthermore, the inclusion of health education in general and oral health issues in particular in school curricula remains essential for students to acquire knowledge and attitudes regarding oral hygiene and thus prevent life-threatening diseases in the future.

Purpose: The purpose of our study was to assess the oral hygiene knowledge and attitudes of first-year college students in order to evaluate the information acquired during their learning in elementary school in the area of health education.

Methods: We opted for a descriptive cross-sectional study conducted in different high schools in the province of Sidi Kacem. To collect the data necessary for our study, we developed a 25-question questionnaire for first-year college students and analyzed clinical data on the oral status of these students.

Results: Only (17.3%) of the students surveyed still use a toothbrush, (65.8%) of them no longer know the correct brushing method. On the other hand, the majority (98%) of the students do not have any information about the World Oral Hygiene Day. Moreover, a small percentage (15.1%) of them remember very well some lessons about oral hygiene. Indeed, the results of the clinical examination show that (61.62%) have dental caries, (12.24%) suffer from mouth diseases and (19.02%) have destroyed teeth.

Conclusion: The results of this study show that students cannot adopt healthy attitudes in oral hygiene, therefore, the need to adopt health education in school as a school discipline independent of others because the answers on health issues will become a necessity of today more than ever.

Key words: elementary school, health education, oral hygiene, school discipline.

Introduction:

Poor oral health in early childhood has serious consequences: it can lead to dental diseases in childhood, adolescence and adulthood; it affects the child psychologically and can affect the general health and quality of life of the whole family (1).

Despite the expansion of prevention programs, the prevalence of caries in young children is still high. From an early age, it is essential to adopt good oral hygiene practices. Early childhood professionals, who are in regular contact with families at a very early age, are the best people to communicate the message of oral hygiene prevention (2).

The World Health Organization (WHO) has declared that oral diseases such as dental caries and periodontal disease are a global health problem. Globally, 90-95% of the population shows signs of gingivitis. This prevalence is present in adults as well as children (3).

Indeed, the school can constitute an essential vector to promote oral health and thus make it possible to reach and sensitize a very large number of children, while involving the educational staff, teachers and the families (4). It seemed very important that the schools adopt a pedagogy of education to health with an aim of transmitting messages of prevention and promotion of health, making it possible to the children, as of their youngest age, to acquire not only knowledge in the field of oral health, but also of good behaviors in the matter for the remainder of their life.

In France, oral health tends to improve overall, but the use of care remains insufficient and the disadvantaged classes are more affected (5). Moreover, dental caries affects 60 to 90% of school-age children. The French National Authority for Health (HAS) counts between 20 and 30% of children aged 4 to 5 years with at least one untreated cavity. This problem is identical across the Atlantic (6).

The school is the major prevention field to fight against social inequalities. Indeed, this place is perfect for the adoption of good practices from the earliest age because the prevention of caries disease requires a good knowledge of oral hygiene (7). Moreover, the knowledge and practices that students will have acquired may allow a change in the habits of their entourage, which may subsequently be beneficial for a good maintenance of oral hygiene of the whole family.

However, a cross-sectional study including a sample of Saudi boys aged 13-15 years in 2016 concluded that the severity of gingivitis was not associated with tooth brushing, but significantly increased in smokers and those with a sugary diet, indicating the effect of lifestyle on oral health status and the need to encourage a healthy lifestyle in the population (8).

There are close links between oral health and general health. Having a healthy mouth is a considerable asset for our overall health, our quality of life and our relationship with others. Indeed, oral health is essential for a good general condition and quality of life (9). In fact, March 20 coincides with World Oral Health Day, which aims to give people the knowledge, tools and confidence to achieve good oral health. Schoolchildren should also remember this day through workshops and learning activities with the goal of empowering students to take personal action to take care of their oral health.

It has been scientifically proven that oral pathologies are the sixth most common cause of diabetes complications; they promote cardiovascular disease; they increase the risk of premature birth; and they could, if current studies confirm it, be linked to Alzheimer's disease (10).

In Morocco, a study shows that oral hygiene deficiencies are more pronounced among housewives than among their school-going children. This is related to the lack of knowledge about the use of the toothbrush and brushing methods (11).

In this perspective, a national strategy for the development of the Moroccan oral health sector for the period 2015-2025 has been developed. The objective is to reduce the prevalence of dental caries by 25% in children aged 6 to 12, and the prevalence of periodontal disease by 40% in young people under 18. This is achieved by adopting strategic axes of strengthening prevention programs and involving parents, in this case mothers, developing the supply of care, as well as strengthening basic training, organizing continuing education and promoting research (12).

Despite the efforts of the Ministry of Health and Welfare to raise awareness of oral hygiene, these efforts remain limited, without emphasizing the role of school and education. For one of the educational missions of the school is to enable each child to learn and acquire good health habits. In fact, education and health are two closely related words and are two sides of the same coin.

Statement of the Problem

The Moroccan Ministry of Health and Social Protection has undertaken several efforts to promote the oral health of students through the implementation of the national oral health program. Despite these efforts, the population suffers from several dental diseases, including dental caries, but through the reinforcement of health education in schools, all these diseases can be prevented to enable learners to acquire sufficient knowledge to prevent oral and dental diseases and their serious consequences.

Objective of the study

The purpose of this study is to identify oral health-related problems among learners, and to investigate the relationship between these problems and the oral health knowledge and attitudes acquired by students during their learning in elementary school.

Research Questions

The following questions were adopted:

1. Are the knowledge and skills acquired during primary education sufficient for learners to adopt healthy oral hygiene behaviors?
2. How does active teaching through health education improve performance related to oral disease prevention?

Importance of the Study

This study is important because it will generate data that can help education stakeholders such as the Department of Education, Preschool and Sports and researchers determine how the adoption of health education as a teaching discipline can influence students' attitudes and practices regarding oral disease prevention.

Material and method

Setting and type of study

This is a descriptive cross-sectional study, focusing on the importance of health education to promote oral hygiene in the Moroccan school population, in order to assess the relationship between knowledge, attitudes and oral diseases. The study was conducted over a four-month period, from January 1 to April 30, 2022.

Location of the study

The study was conducted in college secondary schools under the jurisdiction of Sidi Kacem province, which is a predominantly rural subdivision of the Rabat-Salé-Kénitra region of Morocco. As of September 1, 2014, the population of Sidi Kacem province was 522,270, representing 11.4% of the regional population and 1.5% of the national population. In terms of educated population, there is a predominance of people with primary education (29.8%), followed by those with university or secondary education (19.4%). On the other hand, only 2.9% of the population has a higher level of education (13).

Sampling technique:

The survey was carried out via a questionnaire that aims to assess the knowledge, attitudes of a sample of students in the first year of secondary college education regarding oral hygiene. The tool, which was developed by the researcher himself, consists of two parts. The first part requires general information about the respondents, such as gender and age, place of residence. The second part includes questions to assess the knowledge acquired in primary education in the field of oral hygiene. The main knowledge is about the importance of oral hygiene and tooth brushing, including the use of toothbrushes, the frequency of brushing, the life span of brushes and the correct method of brushing.

After authorization from the officials, we chose to analyze statistical data from the school health teams of the provincial delegation of the Ministry of Health and Social Welfare in the province of Sidi Kacem (doctor and school health nurse) among students in the same sample to identify complications related to poor oral hygiene.

To assess the adoption of healthy oral hygiene attitudes, we used students in the first year of secondary school education, as they have already spent at least six years of learning in the primary education cycle.

Finally, the observation reflects what the researcher notices, "observes" by living with people, sharing their activities; moreover, we have the opportunity to participate in school health team outings in the same province and we have observed several anomalies that can be avoided by the proper practice of oral hygiene.

Statistical analysis

The analysis of the results was performed with the Statistical Package For Social Science (IBM SPSS Statistics V21 x86) for Windows. The quantitative variables with asymmetric distribution, namely the age of the students, were expressed as mean \pm standard deviation, while the qualitative variables (toothbrush use, frequency, duration, demonstration and method of brushing, change of toothbrush and its period of change) were expressed as number and percentage.

Results and discussion:

❖ **Questionnaire.**

Our study showed the participation of 531 students from different secondary schools in the province of Sidi Kacem. They ranged in age from 12 to 16 years (with a mean age of 13.05 and a standard deviation of 0.702), with a slight male predominance (50.7% boys; n= 269). Most of these participants came from rural areas, namely (83.4%; n=443) versus (16.6%; n=88) from the city of Sidi Kacem. During the schooling period, (69.5%; n=369) lived at home with their parents, while (30.5%; n=162) lived in a boarding school.

Do you use a toothbrush?

| | Number | Percentage | Percentage valid | Percentage Cumulative |
|--------------|--------|------------|------------------|-----------------------|
| Valid always | 92 | 17,3 | 17,3 | 17,3 |
| often | 183 | 34,5 | 34,5 | 51,8 |
| rarely | 185 | 34,8 | 34,8 | 86,6 |
| never | 71 | 13,4 | 13,4 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 1: Toothbrush use by students.

The toothbrush appeared in France in the 17th century, but its invention goes back to the 15th century, but it is only at the end of the 19th century, with the appearance of the first celluloid handles, that this object became widespread. However, according to a study carried out in 2007, in France, only 1.4 toothbrushes were consumed per inhabitant per year, as opposed to the recommended 4, and 3.5 tubes of toothpaste were consumed per inhabitant per year, as opposed to 3.5 as opposed to 7 recommended (14).

In our study, as shown in Table 1, the percentage of students who always use a toothbrush is very low (17.3%; n= 92). A similar study conducted among Moroccan schoolchildren and their mothers showed that toothbrush use was low among both children (68%) and their mothers (58.5%) (11).

In this study, we did not take into account the social aspect of the students, because the cost of a toothbrush is very low and therefore accessible to all. In addition, the role of the community should be interesting: education officials, parent associations, health professionals, etc...To help students acquire toothbrushes. But the problem

that is clearly encountered among students is the lack of a clear culture on oral health, even these students have toothbrushes, they do not brush their teeth.

How many times a day should I brush my teeth.

| | Number | Percentage | Percentage valid | Percentage Cumulative |
|----------------------|--------|------------|------------------|-----------------------|
| Valid 1 time per day | 144 | 27,1 | 27,1 | 27,1 |
| 2 times a day | 118 | 22,2 | 22,2 | 49,3 |
| 3 times a day | 210 | 39,5 | 39,5 | 88,9 |
| 5 times a day | 59 | 11,1 | 11,1 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 2: Minimum frequency of tooth brushing.

As for the assessment of students' oral health knowledge, we found that only 22.2% of them knew very well the minimum number of times to brush their teeth, which shows that these students do not have enough information about the frequency of brushing their teeth during the day, which is mainly the responsibility of their families and parents. Although school is a place of learning for all school-aged children, introducing the topic of oral health to the school population is essential to avoid various oral health-related diseases.

Indeed, a large online survey implementing the knowledge of the French on the issue of oral hygiene has shown that brushing teeth at least twice a day: in order to better prevent oral pathologies, the UFSBD (the French Union for Oral Health), recommends two daily brushing of two minutes each. However, 26% of French people brush their teeth less than twice a day. In fact, compared to women, men (35%) are the bad pupils concerning the recommendations of the UFSBD: they brush only once a day or even take several days before brushing (15).

What is the minimum brushing time?

| | Number | Percentage | Percentage valid | Percentage Cumulative |
|------------------|--------|------------|------------------|-----------------------|
| Valid 30 seconds | 61 | 11,5 | 11,5 | 11,5 |
| 1 minute | 137 | 25,8 | 25,8 | 37,3 |
| 2 minutes | 170 | 32,0 | 32,0 | 69,3 |
| 4 minutes | 163 | 30,7 | 30,7 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 3: Minimum brushing time.

The distribution according to the duration of brushing showed that among these students only (25.8%; n=137) knew exactly the minimum duration of brushing; comparing this result with the results of a study conducted among dental students at the Faculty of Medicine in Rabat in 2019 we found almost the same results showing that the habits developed in childhood may remain forever (16).

In addition, these results can be explained by the increasing lack of motivation of students for oral hygiene over the years and by the high need for lessons related to oral health education and teeth during learning in elementary school.

What is the correct method of brushing my teeth?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|---|--------|------------|------------------|-----------------------|
| Valid From the tooth to the gum | 167 | 31,5 | 31,5 | 31,5 |
| From the gum to the tooth | 182 | 34,3 | 34,3 | 65,7 |
| From the tooth to the gum and from the gum to the tooth | 182 | 34,3 | 34,3 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 4: What is the correct method of brushing my teeth?

The distribution of the sample by brushing method showed that (65.8%; n=349) of these students did not know the correct brushing method. The correct brushing technique is from the gum to the tooth, i.e. from red to white. The toothbrush should be angled at a 45° angle for best results. Ideally, the brush should not move back and forth to prevent debris from returning to the gum (17).

Of course, one of the educational missions of schools is to enable each child to learn and acquire good health habits. To promote health, the creation of oral health education projects can contribute to the collective modification of certain behaviors, which will ultimately have a real impact on the health of children.

How long does it take to change your toothbrush?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|------------------------|--------|------------|------------------|-----------------------|
| once a year | 76 | 14,3 | 14,3 | 14,3 |
| Every six months | 206 | 38,8 | 38,8 | 53,1 |
| Valid Every two months | 133 | 25,0 | 25,0 | 78,2 |
| Every 4 months | 116 | 21,8 | 21,8 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 5: The life of a toothbrush.

The life of a toothbrush will depend on several factors, namely the brushing habits and the technique used; the frequency and duration of brushing; and the brushing force. It is recommended to regularly renew the head of your electric toothbrush, or your manual toothbrush, when the bristles have lost their hold and open up in a fan shape, or when the colored wear indicator shows it. This frequency varies from one to 3 months depending on the equipment (18).

According to the results obtained in our study, about half of our sample has no information about the life span of a toothbrush. Indeed, the prevention and health promotion messages delivered during schooling allow children, from a very young age, to acquire not only knowledge about oral health but also good oral and food hygiene behaviors for the rest of their lives.

What is a cavity ?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|---|--------|------------|------------------|-----------------------|
| C'est une cavité dans la langue creusée par un champignon microscopique | 164 | 30,9 | 30,9 | 30,9 |
| C'est une inflammation de la gencive | 225 | 42,4 | 42,4 | 73,3 |
| C'est une cavité dans la dent creusée par les sucres | 142 | 26,7 | 26,7 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 6: Definition of a cavity.

Cavities are caused by sugars in food and the action of bacteria in the mouth. These bacteria concentrate in dental plaque, a whitish substance that also contains saliva and food particles. Plaque is deposited on the surface of the teeth and is removed by brushing the teeth. When plaque remains on the teeth, the bacteria it contains convert the sugars in food into acids. These acids attack the tooth by forming a hole on its surface: this is dental caries. If left untreated, the hole will grow and the cavity will become deeper (19).

Our study showed that only (26.7%; n=142) of the respondents had some knowledge of the definition of dental caries, which leads us to ask two questions: is this lack of information due to the absence of oral hygiene lessons in elementary school, or is the way in which messages are conveyed poor?

What is the best choice of toothbrush?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|--|--------|------------|------------------|-----------------------|
|--|--------|------------|------------------|-----------------------|

| | | | | | |
|-------|--|-----|-------|-------|-------|
| Valid | A medium-hard brush with a rounded tip | 155 | 29,2 | 29,2 | 29,2 |
| | A soft brush with a rounded tip | 209 | 39,4 | 39,4 | 68,5 |
| | A hard brush with a rectangular tip | 167 | 31,5 | 31,5 | 100,0 |
| | Total | 531 | 100,0 | 100,0 | |

Table 7: Choosing a toothbrush.

As for the best choice of toothbrush, only 209 of the students (39.4%) answered that the toothbrush should be soft and with a rounded tip. This reflects that parents also do not have as much information about the correct choice of toothbrushes; here appears the important role of school, in fact, whether in the field of academic knowledge or health education. Education is always a one-way process between parents and children or between teachers and children, but the effectiveness of transmission in the other direction has never been explored, so it is necessary to objectify the knowledge acquired by children vis-à-vis their parents. It appears that children, after oral health education, are able to communicate what they have learned in a school setting (4).

World Oral Health Day is celebrated on 20 March each year to raise awareness of the importance of oral health. In keeping with the goal of achieving "oral health for all," the World Health Organization (WHO) uses this occasion to encourage behavioral change in individuals and communities, and to encourage governments, nongovernmental organizations, and the private sector to work toward an environment conducive to achieving this goal (20).

The results of our study show that the majority of students, 98%, have no information about World Oral Health Day and have never participated in an oral health-related extracurricular activity on this day.

Indeed, World Oral Health Day is an excellent platform to raise awareness about oral health and its key role in overall health, well-being and quality of life. This event should be an opportunity for schools to organize learning activities on oral health and the main messages to be conveyed are Oral health is one of the main pillars of general health and well-being; controlling the risk factors of oral diseases can also help prevent other health problems.

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Do you remember a lesson in elementary school about the correct way to brush your teeth?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|-------|--------------------------|------------|------------------|-----------------------|
| Valid | I remember very well. | 45 | 8,5 | 8,5 |
| | I remember some lessons. | 174 | 32,8 | 41,2 |
| | I don't remember. | 312 | 58,8 | 100,0 |
| | Total | 531 | 100,0 | 100,0 |

Table 8: Memorized notions about the correct way to brush your teeth.

We also evaluated the knowledge memorized by the students during the learning in elementary school about oral hygiene, As for the correct way to brush the teeth, 58.8% do not remember any lesson about the correct way to brush the teeth, 32% remember some lessons and only 8.5% remember very well the lessons about the correct way to brush the teeth.

In addition, 49.7% do not remember any lessons on the importance of oral hygiene in elementary school, 35.2% remember some lessons, while 15.1% remember lessons on this topic very well.

Where do you get oral hygiene information?

| | Number | Percentage | Percentage valid | Percentage cumulative |
|--------------|--------|------------|------------------|-----------------------|
| The school | 71 | 13,37 | 13,37 | 13,37 |
| Internet | 106 | 19,96 | 19,96 | 33,33 |
| social media | 212 | 39,92 | 39,92 | 73,25 |
| TV | 89 | 16,76 | 16,76 | 90,01 |
| Radio | 61 | 10,00 | 10,00 | 100 |
| Total | 531 | 100,0 | 100,0 | |

Table 9:collection of information on oral hygiene.

The results show that only 13.37% of students receive oral health information through school, but the majority receive oral health information through social networks, the Internet, television and radio.

An American study has shown that an oral health intervention on the Internet can increase parents' knowledge and would therefore be an effective and inexpensive strategy to promote children's oral health. Furthermore, 86% of parents consider the information found on the Internet to be reliable, but the searches are often long, disappointing and not adapted to their expectations (21).

In France, according to the HAS, information and education of parents on their children's oral health must be integrated with other prevention messages, particularly those given at school or by nursery assistants (22).

Avez-vous assistez une séance de démonstration pratique sur la méthode du brossage des dents ?

| | Effectifs | Pourcentage | Pourcentage valide | Pourcentage cumulé |
|-------|-----------|-------------|--------------------|--------------------|
| oui | 104 | 19,6 | 19,6 | 19,6 |
| non | 427 | 80,4 | 80,4 | 100,0 |
| Total | 531 | 100,0 | 100,0 | |

Table 10: Participation in hands-on demonstration sessions on the toothbrushing method.

A rate of 80.4% have never attended a demonstration session on how to brush their teeth, and 72.5% have never participated in an oral hygiene day or week.

Indeed, oral hygiene at school is necessary. Especially during kindergarten and elementary school. Not only because it helps to develop the habit of taking care of the teeth, but also because it helps the child to have a better self-image in front of his classmates and friends.

In addition, the accompanying proposal Brushing Teeth in Elementary School aims to educate teachers on the importance of good oral hygiene habits in children and then provide them with information and tools to implement this practice in their classrooms. Implementing and maintaining this practice will promote good oral health in the children who benefit from it in their daycare setting (23).

❖ *Clinical examination by school health teams*

| | Tooth decay | Other oral diseases | Destroyed teeth |
|------------|-------------|---------------------|-----------------|
| Number | 221 | 65 | 101 |
| percentage | 61,62% | 12,24% | 19,02% |

Table 11: Results of the clinical examination.

Our study showed that the rate of dental caries is slightly high. Indeed, in a Tunisian study. The prevalence of caries was 83.5%. The CAO index was evaluated at 6.05, 7.2 and 6.76 respectively for subjects aged 6, 12 and 15 years. Oral health status was significantly influenced by sex ($p < 0.05$), presence of the six-year-old tooth ($p < 0.05$) and schooling ($p < 0.05$) (24).

The results of a Canadian study showed that: Cavities affect approximately one in two elementary school students. In 2012-2013, 56.3% of Laval's second grade students were affected by cavities. The proportion is

lower among Laval sixth-grade students (42.5%). Compared to the rest of Quebec: Laval students in grade 2 appear to be as affected by cavities as the rest of Quebec students. Laval students in grade 6 are significantly less affected by caries (25).

In France, according to a survey conducted in 2005 on a sample of 1000 children aged 12 years, 43.6% suffered from caries and among children aged 5 to 6 years 9% have at least two untreated decayed teeth, the mixed CAO index is 1.7 (26).

In addition, oral health promotion in schools, which aims to develop healthy lifestyles and effective oral hygiene practices, through an integrated approach combining school health policies, skills-based health education and a healthy school environment, is expected to be effective in controlling oral diseases and reducing their prevalence (27).

Recommendation:

- ❖ The inclusion of health education as a school subject or the strengthening of cross-cutting approaches to health education in the curriculum.
- ❖ The introduction of health education in basic and in-service teacher training.
- ❖ Develop extracurricular activities on the correct method of brushing teeth to convey the necessary educational messages to students;
- ❖ Integrate oral health modules into the university training curriculum for future teachers;
- ❖ Give everyone the opportunity to express themselves: debates, discussions, role-plays, artistic performances, etc.) In order to stimulate reflection on oral hygiene.
- ❖ Celebrate different international and national days related to different health issues (obesity, drugs, smoking, STIs/AIDS, etc.) and produce information sheets and brochures, especially on oral health,
- ❖ Involve adolescents in radio and television programs on the importance of oral hygiene.
- ❖ Apply the strategic prevention tools described above by implementing a health education and oral health promotion program in schools (primary prevention action);
- ❖ Conduct an epidemiological survey on the oral health status (caries prevalence and gingival inflammation scores) and hygienic and dietary practices of school children in Morocco;
- ❖ To develop long-term partnerships between the National Education and the different actors in the field of oral health.

Conclusion:

Schools are an effective means of health promotion because they provide access to many millions of school children worldwide. Oral health promotion in schools, aimed at developing healthy lifestyle habits and effective oral hygiene practices throughout the school years, through an integrated approach combining public health policies.

The results of this survey confirm the strategic importance of hygiene education and oral health promotion among schoolchildren according to scientific evidence. Focusing on the interrelation between students' knowledge and attitudes about oral hygiene and the clinical examination of this sample, this study reveals a lack of oral hygiene among schoolchildren. This is related to a lack of knowledge of toothbrush use and brushing methods. To improve this situation, a national strategy on including oral health topics in the school curriculum is needed to encourage students to adopt healthy behaviors.

The survey "Promoting oral health of children through schools - Results from a WHO global survey¹¹⁶" published in 2012 shows that most countries around the world are implementing oral health education programs in schools and that these programs focus mainly on elementary school in accordance with the concept of the "health promoting school". In accordance with WHO recommendations, the educational actions implemented focus on dietary habits, oral hygiene and daily brushing with fluoride toothpaste (27).

In conclusion, it is clear that poor health is a barrier to learning. Health difficulties affect both engagement in classroom activities, student attitudes and academic performance. On the other hand, there is a strong link between education and health. The higher the level of education, the better the health status. This is reflected in health-related behaviors, such as life expectancy and access to health care. While the family is the main place of education, the school, as a living environment and as a privileged space of education, is also likely to contribute strongly to the improvement of health (28).

Conflicts of Interest: All authors have no conflict interest to declare.

Source of Funding: The source of the research cost from self.

Ethical Clearance: Nil

Acknowledgements:

We would like to thank the provincial delegation of the Ministry of Health and Social Action in the city of Sidi Kacem and the administrative staff of the colleges in the same province. We sincerely thank the students who

agreed to participate in our study. Thanks also to the referee readers of the journal for their help in improving the manuscript.

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